ABSTRACT

Cylinders of a diesel engine 1 are provided with cylinder pressure sensors 29a to 29d for detecting combustion chamber pressures. An electronic control unit (ECU) 20 of the engine selects optimum combustion parameters in accordance with a fuel injection mode of fuel injectors 10a to 10d of the engine and a combustion mode determined by the amount of EGR gas supplied from the EGR valve 35 from among a plurality of types of combustion parameters expressing the combustion state of the engine calculated based on the cylinder pressure sensor output and feedback controls the fuel injection amount and fuel injection timing so that the values of the combustion parameters match target values determined in accordance with the engine operating conditions. Due to this, the engine combustion state is controlled to the optimum state at all times regardless of the fuel injection mode or combustion mode.